

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 06-129345  
 (43)Date of publication of application : 10.05.1994

(51)Int.CI.

F04B 1/20  
F04B 21/00

(21)Application number : 04-272817

(71)Applicant : NOIBERUKU KK

(22)Date of filing : 12.10.1992

(72)Inventor : OGAWA KENJI

## (54) PLUNGER PUMP

## (57)Abstract:

PURPOSE: To provide a plunger pump which can suck and discharge liquids at high accuracy, has high durability and is easy to handle.  
 CONSTITUTION: A valve block 30 having communicating holes 31, 32 for intake and delivery ports 21, 22 and a pump block 40 having a plunger insertion hole 42 into which a plunger 45 is inserted are both made from a hard material such as alumina ceramics. Even if the blocks 30, 40 are pressed by a cone spring 51 and forced into contact with each other at their respective sliding surfaces 33, 41 in order to provide a seal for preventing liquid leaks, the blocks are not broken since they are made from hard material and have high durability. Also, the need for finely controlling the pressing force is eliminated so that the plunger pump is easy to handle. Further, since the hard material resists deformation, quantities of liquids can be measured at the plunger insertion hole 42 and the valve block 30 at high accuracy.

